

SEQUENCE LISTING

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<120> COMPOSITIONS AND METHODS FOR THE THERAPY AND DIAGNOSIS
 OF HER-2/NEU-ASSOCIATED MALIGNANCIES

<130> 210121.544

<140> US

<141> 2001-08-14

<160> 25

<170> FastSEQ for Windows Version 3.0

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<211> 3768

<212> DNA

<213> Homo sapien

<220> .

<221> CDS

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1				5					10					15			

ccc	ccc	gga	gcc	gcg	agc	acc	caa	gtg	tgc	acc	ggc	aca	gac	atg	aag	96
Pro	Pro	Gly	Ala	Ala	Ser	Thr	Gln	Val	Cys	Thr	Gly	Thr	Asp	Met	Lys	
			20					25					30			

ctg	cgg	ctc	cct	gcc	agt	ccc	gag	acc	cac	ctg	gac	atg	ctc	cgc	cac	144
Leu	Arg	Leu	Pro	Ala	Ser	Pro	Glu	Thr	His	Leu	Asp	Met	Leu	Arg	His	
		35					40					45				

ctc	tac	cag	ggc	tgc	cag	gtg	gtg	cag	gga	aac	ctg	gaa	ctc	acc	tac	192
Leu	Tyr	Gln	Gly	Cys	Gln	Val	Gln	Gly	Asn	Leu	Glu	Leu	Thr	Tyr		
	50					55				60						

ctg	ccc	acc	aat	gcc	agc	ctg	tcc	ttc	ctg	cag	gat	atc	cag	gag	gtg	240
Leu	Pro	Thr	Asn	Ala	Ser	Leu	Ser	Phe	Leu	Gln	Asp	Ile	Gln	Glu	Val	
	65				70				75					80		

cag	ggc	tac	gtg	ctc	atc	gct	cac	aac	caa	gtg	agg	cag	gtc	cca	ctg	288
Gln	Gly	Tyr	Val	Leu	Ile	Ala	His	Asn	Gln	Val	Arg	Gln	Val	Pro	Leu	

	85							90						95						
cag Gln	agg Arg	ctg Leu	cgg Arg 100	att Ile	gtg Val	cga Arg	ggc Gly 105	acc Thr	cag Gln	ctc Leu	ttt Phe	gag Glu	gac Asp 110	aac Asn	tat Tyr	336				
gcc Ala	ctg Leu	gcc Ala 115	gtg Val	cta Leu	gac Asp	aat Asn	gga Gly 120	gac Asp	ccg Pro	ctg Leu	aac Asn 125	aat Asn	acc Thr	acc Thr	cct Pro	384				
gtc Val	aca Thr 130	ggg Gly	gcc Ala	tcc Ser	cca Pro	gga Gly 135	ggc Gly	ctg Leu	cgg Arg	gag Glu	ctg Leu 140	cag Gln	ctt Leu	cga Arg	agc Ser	432				
ctc Leu 145	aca Thr	gag Glu	atc Ile	ttg Leu	aaa Lys 150	gga Gly	ggg Gly	gtc Val	ttg Leu 155	atc Ile	cag Gln	cgg Arg	aac Asn	ccc Pro	cag Gln 160	480				
ctc Leu	tgc Cys	tac Tyr	cag Gln 165	gac Asp	acg Thr	att Ile	ttg Leu	tgg Trp 170	aag Lys	gac Asp	atc Ile	ttc Phe	cac His	aag Lys 175	aac Asn	528				
aac Asn	cag Gln	ctg Leu 180	gct Ala	ctc Leu	aca Thr	ctg Leu	ata Ile 185	gac Asp	acc Thr	aac Asn	cgc Arg	tct Ser	cgg Arg 190	gcc Ala	tgc Cys	576				
cac His	ccc Pro 195	tgt Cys	tct Ser	ccg Pro	atg Met	tgt Cys	aag Lys 200	ggc Gly	tcc Ser	cgc Arg	tgc Cys 205	tgg Trp	gga Gly	gag Glu	agt Ser	624				
tct Ser	gag Glu 210	gat Asp	tgt Cys	cag Gln	agc Ser	ctg Leu 215	acg Thr	cgc Arg	act Thr	gtc Val	tgt Cys 220	gcc Ala	ggt Gly	ggc Gly	tgt Cys	672				
gcc Ala 225	cgc Arg	tgc Cys	aag Lys	ggg Gly	cca Pro 230	ctg Leu	ccc Pro	act Thr	gac Asp	tgc Cys 235	tgc Cys	cat His	gag Glu	cag Gln	tgt Cys 240	720				
gct Ala	gcc Ala	ggc Gly	tgc Cys 245	acg Thr	ggc Gly	ccc Pro	aag Lys	cac His	tct Ser 250	gac Asp	tgc Cys	ctg Leu	gcc Ala	tgc Cys 255	ctc Leu	768				
cac His	ttc Phe	aac Asn 260	cac His	agt Ser	ggc Gly	atc Ile	tgt Cys	gag Glu 265	ctg Leu	cac His	tgc Cys	cca Pro	gcc Ala 270	ctg Leu	gtc Val	816				
acc Thr	tac Tyr	aac Asn 275	aca Thr	gac Asp	acg Thr	ttt Phe 280	gag Glu 285	tcc Ser	atg Met	ccc Pro	aat Asn 285	ccc Pro	gag Glu	ggc Gly	cgg Arg	864				
tat Tyr	aca Thr 290	ttc Phe	ggc Gly	gcc Ala	agc Ser	tgt Cys 295	gtg Val	act Thr	gcc Ala	tgt Cys	ccc Pro 300	tac Tyr	aac Asn	tac Tyr	ctt Leu	912				
tct Ser 305	acg Thr	gac Asp	gtg Val	gga Gly 310	tcc Ser	tgc Cys	acc Thr	ctc Leu	gtc Val 315	tgc Cys	ccc Pro 320	ctg Leu	cac His	aac Asn	caa Gln 320	960				

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Glu	Val	Thr	Ala	Glu	Asp	Gly	Thr	Gln	Arg	Cys	Glu	Lys	Cys	Ser	Lys	
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ccc	tgt	gcc	cga	gtg	tgc	tat	gg	ctg	ggc	atg	gag	cac	ttg	cga	gag	1056
Pro	Cys	Ala	Arg	Val	Cys	Tyr	Gly	Leu	Gly	Met	Glu	His	Leu	Arg	Glu	
			340					345					350			
gtg	agg	gca	gtt	acc	agt	gcc	a	atc	cag	gag	ttt	gct	ggc	tgc	aag	1104
Val	Arg	Ala	Val	Thr	Ser	Ala	Asn	Ile	Gln	Glu	Phe	Ala	Gly	Cys	Lys	
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aag	atc	ttt	ggg	agc	ctg	gca	ttt	ctg	ccg	gag	agc	ttt	gat	ggg	gac	1152
Lys	Ile	Phe	Gly	Ser	Leu	Ala	Phe	Leu	Pro	Glu	Ser	Phe	Asp	Gly	Asp	
	370					375					380					
cca	gcc	tcc	aac	act	gcc	ccg	ctc	cag	cca	gag	cag	ctc	caa	gtg	ttt	1200
Pro	Ala	Ser	Asn	Thr	Ala	Pro	Leu	Gln	Pro	Glu	Gln	Leu	Gln	Val	Phe	
					390					395				400		
gag	act	ctg	gaa	gag	atc	aca	gg	tac	cta	tac	atc	tca	gca	tgg	ccg	1248
Glu	Thr	Leu	Glu	Glu	Ile	Thr	Gly	Tyr	Leu	Tyr	Ile	Ser	Ala	Trp	Pro	
			405					410						415		
gac	agc	ctg	cct	gac	ctc	agc	gtc	ttc	cag	aac	ctg	caa	gta	atc	cgg	1296
Asp	Ser	Leu	Pro	Asp	Leu	Ser	Val	Phe	Gln	Asn	Leu	Gln	Val	Ile	Arg	
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gga	cga	att	ctg	cac	a	ggc	gcc	tac	tcg	ctg	acc	ctg	caa	ggg	ctg	1344
Gly	Arg	Ile	Leu	His	Asn	Gly	Ala	Tyr	Ser	Leu	Thr	Leu	Gln	Gly	Leu	
		435				440						445				
ggc	atc	agc	tgg	ctg	ggg	ctg	cgc	tca	ctg	agg	gaa	ctg	ggc	agt	gga	1392
Gly	Ile	Ser	Trp	Leu	Gly	Leu	Arg	Ser	Leu	Arg	Glu	Leu	Gly	Ser	Gly	
	450				455					460						
ctg	gcc	ctc	atc	cac	cat	aac	acc	cac	ctc	tgc	ttc	gtg	cac	acg	gtg	1440
Leu	Ala	Leu	Ile	His	His	Asn	Thr	His	Leu	Cys	Phe	Val	His	Thr	Val	
	465			470						475				480		
ccc	tgg	gac	cag	ctc	ttt	cgg	aac	ccg	cac	caa	gct	ctg	ctc	cac	act	1488
Pro	Trp	Asp	Gln	Leu	Phe	Arg	Asn	Pro	His	Gln	Ala	Leu	Leu	His	Thr	
				485				490						495		
gcc	aac	cgg	cca	gag	gac	gag	tgt	gtg	ggc	gag	ggc	ctg	gcc	tgc	cac	1536
Ala	Asn	Arg	Pro	Glu	Asp	Glu	Cys	Val	Gly	Glu	Gly	Leu	Ala	Cys	His	
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cag	ctg	tgc	gcc	cga	ggg	cac	tgc	tgg	gg	cca	ggg	ccc	acc	cag	tgt	1584
Gln	Leu	Cys	Ala	Arg	Gly	His	Cys	Trp	Gly	Pro	Gly	Pro	Thr	Gln	Cys	
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gtc	aac	tgc	agc	cag	ttc	ctt	cgg	ggc	cag	gag	tgc	gtg	gag	gaa	tgc	1632
Val	Asn	Cys	Ser	Gln	Phe	Leu	Arg	Gly	Gln	Glu	Cys	Val	Glu	Glu	Cys	
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Arg Val Leu Gln Gly Leu Pro Arg Glu Tyr Val Asn Ala Arg His Cys	
545 550 555 560	
ttg ccg tgc cac cct gag tgt cag ccc cag aat ggc tca gtg acc tgt	1728
Leu Pro Cys His Pro Glu Cys Gln Pro Gln Asn Gly Ser Val Thr Cys	
565 570 575	
ttt gga ccg gag gct gac cag tgt gtg gcc tgt gcc cac tat aag gac	1776
Phe Gly Pro Glu Ala Asp Gln Cys Val Ala Cys Ala His Tyr Lys Asp	
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cct ccc ttc tgc gtg gcc cgc tgc ccc agc ggt gtg aaa cct gac ctc	1824
Pro Pro Phe Cys Val Ala Arg Cys Pro Ser Gly Val Lys Pro Asp Leu	
595 600 605	
tcc tac atg ccc atc tgg aag ttt cca gat gag gag ggc gca tgc cag	1872
Ser Tyr Met Pro Ile Trp Lys Phe Pro Asp Glu Glu Gly Ala Cys Gln	
610 615 620	
cct tgc ccc atc aac tgc acc cac tcc tgt gtg gac ctg gat gac aag	1920
Pro Cys Pro Ile Asn Cys Thr His Ser Cys Val Asp Leu Asp Asp Lys	
625 630 635 640	
ggc tgc ccc gcc gag cag aga gcc agc cct ctg acg tcc atc atc tct	1968
Gly Cys Pro Ala Glu Gln Arg Ala Ser Pro Leu Thr Ser Ile Ile Ser	
645 650 655	
gcg gtg gtt ggc att ctg ctg gtc gtg gtc ttg ggg gtg gtc ttt ggg	2016
Ala Val Val Gly Ile Leu Leu Val Val Val Leu Gly Val Val Phe Gly	
660 665 670	
atc ctc atc aag cga cgg cag cag aag atc cgg aag tac acg atg cgg	2064
Ile Leu Ile Lys Arg Arg Gln Gln Lys Ile Arg Lys Tyr Thr Met Arg	
675 680 685	
aga ctg ctg cag gaa acg gag ctg gtg gag ccg ctg aca cct agc gga	2112
Arg Leu Leu Gln Glu Thr Glu Leu Val Glu Pro Leu Thr Pro Ser Gly	
690 695 700	
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Ala Met Pro Asn Gln Ala Gln Met Arg Ile Leu Lys Glu Thr Glu Leu	
705 710 715 720	
agg aag gtg aag gtg ctt gga tct ggc gct ttt ggc aca gtc tac aag	2208
Arg Lys Val Lys Val Leu Gly Ser Gly Ala Phe Gly Thr Val Tyr Lys	
725 730 735	
ggc atc tgg atc cct gat ggg gag aat gtg aaa att cca gtg gcc atc	2256
Gly Ile Trp Ile Pro Asp Gly Glu Asn Val Lys Ile Pro Val Ala Ile	
740 745 750	
aaa gtg ttg agg gaa aac aca tcc ccc aaa gcc aac aaa gaa atc tta	2304
Lys Val Leu Arg Glu Asn Thr Ser Pro Lys Ala Asn Lys Glu Ile Leu	
755 760 765	
gac gaa gca tac gtg atg gct ggt gtg ggc tcc cca tat gtc tcc cgc	2352

Asp	Glu	Ala	Tyr	Val	Met	Ala	Gly	Val	Gly	Ser	Pro	Tyr	Val	Ser	Arg		
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Leu	Leu	Gly	Ile	Cys	Leu	Thr	Ser	Thr	Val	Gln	Leu	Val	Thr	Gln	Leu	800	
785					790					795							
atg	ccc	tat	ggc	tgc	ctc	tta	gac	cat	gtc	cgg	gaa	aac	cgc	gga	cgc	2448	
Met	Pro	Tyr	Gly	Cys	Leu	Leu	Asp	His	Val	Arg	Glu	Asn	Arg	Gly	Arg	815	
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ctg	ggc	tcc	cag	gac	ctg	ctg	aac	tgg	tgt	atg	cag	att	gcc	aag	ggg	2496	
Leu	Gly	Ser	Gln	Asp	Leu	Leu	Asn	Trp	Cys	Met	Gln	Ile	Ala	Lys	Gly	830	
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Met	Ser	Tyr	Leu	Glu	Asp	Val	Arg	Leu	Val	His	Arg	Asp	Leu	Ala	Ala	845	
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cgg	aac	gtg	ctg	gtc	aag	agt	ccc	aac	cat	gtc	aaa	att	aca	gac	ttc	2592	
Arg	Asn	Val	Leu	Val	Lys	Ser	Pro	Asn	His	Val	Lys	Ile	Thr	Asp	Phe	860	
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ggg	ctg	gct	cgg	ctg	ctg	gac	att	gac	gag	aca	gag	tac	cat	gca	gat	2640	
Gly	Leu	Ala	Arg	Leu	Leu	Asp	Ile	Asp	Glu	Thr	Glu	Tyr	His	Ala	Asp	880	
865					870					875							
ggg	ggc	aag	gtg	ccc	atc	aag	tgg	atg	gcg	ctg	gag	tcc	att	ctc	cgc	2688	
Gly	Gly	Lys	Val	Pro	Ile	Lys	Trp	Met	Ala	Leu	Glu	Ser	Ile	Leu	Arg	895	
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cgg	cgg	ttc	acc	cac	cag	agt	gat	gtg	tgg	agt	tat	ggt	gtg	act	gtg	2736	
Arg	Arg	Phe	Thr	His	Gln	Ser	Asp	Val	Trp	Ser	Tyr	Gly	Val	Thr	Val	910	
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Trp	Glu	Leu	Met	Thr	Phe	Gly	Ala	Lys	Pro	Tyr	Asp	Gly	Ile	Pro	Ala	925	
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cgg	gag	atc	cct	gac	ctg	ctg	gaa	aag	ggg	gag	cgg	ctg	ccc	cag	ccc	2832	
Arg	Glu	Ile	Pro	Asp	Leu	Leu	Glu	Lys	Gly	Glu	Arg	Leu	Pro	Gln	Pro	940	
	930					935					940						
ccc	atc	tgc	acc	att	gat	gtc	tac	atg	atc	atg	gtc	aaa	tgt	tgg	atg	2880	
Pro	Ile	Cys	Thr	Ile	Asp	Val	Tyr	Met	Ile	Met	Val	Lys	Cys	Trp	Met	960	
945					950					955							
att	gac	tct	gaa	tgt	cgg	cca	aga	ttc	cgg	gag	ttg	gtg	tct	gaa	ttc	2928	
Ile	Asp	Ser	Glu	Cys	Arg	Pro	Arg	Phe	Arg	Glu	Leu	Val	Ser	Glu	Phe	975	
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tcc	cgc	atg	gcc	agg	gac	ccc	cag	cgc	ttt	gtg	gtc	atc	cag	aat	gag	2976	
Ser	Arg	Met	Ala	Arg	Asp	Pro	Gln	Arg	Phe	Val	Val	Ile	Gln	Asn	Glu	990	
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gac	ttg	ggc	cca	gcc	agt	ccc	ttg	gac	agc	acc	ttc	tac	cgc	tca	ctg	3024	
Asp	Leu	Gly	Pro	Ala	Ser	Pro	Leu	Asp	Ser	Thr	Phe	Tyr	Arg	Ser	Leu		

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ttagaccatg tccgggaaaa ccgcgagcgc ctgggctccc aggacctgct gaactgggtg 480
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aagtggatgc cgctggagtc cattctccgc cggcggttca cccaccagag tgatgtgtgg 720
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<210> 8

<211> 587

<212> PRT

<213> Homo sapiens

<400> 8

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			20					25					30			
Pro	Asn	Gln	Ala	Gln	Met	Arg	Ile	Leu	Lys	Glu	Thr	Glu	Leu	Arg	Lys	
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Val	Lys	Val	Leu	Gly	Ser	Gly	Ala	Phe	Gly	Thr	Val	Tyr	Lys	Gly	Ile	
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Trp	Ile	Pro	Asp	Gly	Glu	Asn	Val	Lys	Ile	Pro	Val	Ala	Ile	Lys	Val	
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Leu	Arg	Glu	Asn	Thr	Ser	Pro	Lys	Ala	Asn	Lys	Glu	Ile	Leu	Asp	Glu	
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Ala	Tyr	Val	Met	Ala	Gly	Val	Gly	Ser	Pro	Tyr	Val	Ser	Arg	Leu	Leu	
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Gly	Ile	Cys	Leu	Thr	Ser	Thr	Val	Gln	Leu	Val	Thr	Gln	Leu	Met	Pro	
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Tyr	Gly	Cys	Leu	Leu	Asp	His	Val	Arg	Glu	Asn	Arg	Gly	Arg	Leu	Gly	
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Ser	Gln	Asp	Leu	Leu	Asn	Trp	Cys	Met	Gln	Ile	Ala	Lys	Gly	Met	Ser	
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Tyr	Leu	Glu	Asp	Val	Arg	Leu	Val	His	Arg	Asp	Leu	Ala	Ala	Arg	Asn	
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Val	Leu	Val	Lys	Ser	Pro	Asn	His	Val	Lys	Ile	Thr	Asp	Phe	Gly	Leu	
			180					185					190			
Ala	Arg	Leu	Leu	Asp	Ile	Asp	Glu	Thr	Glu	Tyr	His	Ala	Asp	Gly	Gly	
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Lys	Val	Pro	Ile	Lys	Trp	Met	Ala	Leu	Glu	Ser	Ile	Leu	Arg	Arg	Arg	
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Phe	Thr	His	Gln	Ser	Asp	Val	Trp	Ser	Tyr	Gly	Val	Thr	Val	Trp	Glu	
225					230					235					240	
Leu	Met	Thr	Phe	Gly	Ala	Lys	Pro	Tyr	Asp	Gly	Ile	Pro	Ala	Arg	Glu	
				245					250					255		
Ile	Pro	Asp	Leu	Leu	Glu	Lys	Gly	Glu	Arg	Leu	Pro	Gln	Pro	Pro	Ile	
			260					265					270			
Cys	Thr	Ile	Asp	Val	Tyr	Met	Ile	Met	Val	Lys	Cys	Trp	Met	Ile	Asp	
		275					280					285				
Ser	Glu	Cys	Arg	Pro	Arg	Phe	Arg	Glu	Leu	Val	Ser	Glu	Phe	Ser	Arg	
	290					295					300					
Met	Ala	Arg	Asp	Pro	Gln	Arg	Phe	Val	Val	Ile	Gln	Asn	Glu	Asp	Leu	
					310					315					320	
Gly	Pro	Ala	Ser	Pro	Leu	Asp	Ser	Thr	Phe	Tyr	Arg	Ser	Leu	Leu	Glu	
				325					330					335		
Asp	Asp	Asp	Met	Gly	Asp	Leu	Val	Asp	Ala	Glu	Glu	Tyr	Leu	Val	Pro	
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Gln	Gln	Gly	Phe	Phe	Cys	Pro	Asp	Pro	Ala	Pro	Gly	Ala	Gly	Gly	Met	
		355					360					365				
Val	His	Arg	His	Arg	Ser	Ser	Ser	Thr	Arg	Ser	Gly	Gly	Gly	Asp		
	370					375					380					
Leu	Thr	Leu	Gly	Leu	Glu	Pro	Ser	Glu	Glu	Glu	Ala	Pro	Arg	Ser	Pro	
					390					395					400	
Leu	Ala	Pro	Ser	Glu	Gly	Ala	Gly	Ser	Asp	Val	Phe	Asp	Gly	Asp	Leu	
				405					410					415		
Gly	Met	Gly	Ala	Ala	Lys	Gly	Leu	Gln	Ser	Leu	Pro	Thr	His	Asp	Pro	
			420					425					430			
Ser	Pro	Leu	Gln	Arg	Tyr	Ser	Glu	Asp	Pro	Thr	Val	Pro	Leu	Pro	Ser	
		435					440					445				
Glu	Thr	Asp	Gly	Tyr	Val	Ala	Pro	Leu	Thr	Cys	Ser	Pro	Gln	Pro	Glu	
	450					455					460					

Tyr Val Asn Gln Pro Asp Val Arg Pro Gln Pro Pro Ser Pro Arg Glu
 465 470 475 480
 Gly Pro Leu Pro Ala Ala Arg Pro Ala Gly Ala Thr Leu Glu Arg Pro
 485 490 495
 Lys Thr Leu Ser Pro Gly Lys Asn Gly Val Val Lys Asp Val Phe Ala
 500 505 510
 Phe Gly Gly Ala Val Glu Asn Pro Glu Tyr Leu Thr Pro Gln Gly Gly
 515 520 525
 Ala Ala Pro Gln Pro His Pro Pro Pro Ala Phe Ser Pro Ala Phe Asp
 530 535 540
 Asn Leu Tyr Tyr Trp Asp Gln Asp Pro Pro Glu Arg Gly Ala Pro Pro
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 Ser Thr Phe Lys Gly Thr Pro Thr Ala Glu Asn Pro Glu Tyr Leu Gly
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<210> 9
 <211> 583
 <212> PRT
 <213> Homo sapiens

<400> 9
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 Pro Asn Gln Ala Gln Met Arg Ile Leu Lys Glu Thr Glu Leu Arg Lys
 35 40 45
 Val Lys Val Leu Gly Ser Gly Ala Phe Gly Thr Val Tyr Lys Gly Ile
 50 55 60
 Trp Ile Pro Asp Gly Glu Asn Val Lys Ile Pro Val Ala Ile Lys Val
 65 70 75 80
 Leu Arg Glu Asn Thr Ser Pro Lys Ala Asn Lys Glu Ile Leu Asp Glu
 85 90 95
 Ala Tyr Val Met Ala Gly Val Gly Ser Pro Tyr Val Ser Arg Leu Leu
 100 105 110
 Gly Ile Cys Leu Thr Ser Thr Val Gln Leu Val Thr Gln Leu Met Pro
 115 120 125
 Tyr Gly Cys Leu Leu Asp His Val Arg Glu Asn Arg Gly Arg Leu Gly
 130 135 140
 Ser Gln Asp Leu Leu Asn Trp Cys Met Gln Ile Ala Lys Gly Met Ser
 145 150 155 160
 Tyr Leu Glu Asp Val Arg Leu Val His Arg Asp Leu Ala Ala Arg Asn
 165 170 175
 Val Leu Val Lys Ser Pro Asn His Val Lys Ile Thr Asp Phe Gly Leu
 180 185 190
 Ala Arg Leu Leu Asp Ile Asp Glu Thr Glu Tyr His Ala Asp Gly Gly
 195 200 205
 Lys Val Pro Ile Lys Trp Met Ala Leu Glu Ser Ile Leu Arg Arg Arg
 210 215 220
 Phe Thr His Gln Ser Asp Val Trp Ser Tyr Gly Val Thr Val Trp Glu
 225 230 235 240
 Leu Met Thr Phe Gly Ala Lys Pro Tyr Asp Gly Ile Pro Ala Arg Glu
 245 250 255
 Ile Pro Asp Leu Leu Glu Lys Gly Glu Arg Leu Pro Gln Pro Pro Ile

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<210> 10
<211> 589
<212> PRT
<213> Homo sapiens
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<400> 10
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20 25 30
Pro Leu Thr Pro Ser Gly Ala Met Pro Asn Gln Ala Gln Met Arg Ile
35 40 45
Leu Lys Glu Thr Glu Leu Arg Lys Val Lys Val Leu Gly Ser Gly Ala
50 55 60

Phe	Gly	Thr	Val	Tyr	Lys	Gly	Ile	Trp	Ile	Pro	Asp	Gly	Glu	Asn	Val
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Lys	Ile	Pro	Val	Ala	Ile	Lys	Val	Leu	Arg	Glu	Asn	Thr	Ser	Pro	Lys
				85					90					95	
Ala	Asn	Lys	Glu	Ile	Leu	Asp	Glu	Ala	Tyr	Val	Met	Ala	Gly	Val	Gly
			100					105					110		
Ser	Pro	Tyr	Val	Ser	Arg	Leu	Leu	Gly	Ile	Cys	Leu	Thr	Ser	Thr	Val
		115					120					125			
Gln	Leu	Val	Thr	Gln	Leu	Met	Pro	Tyr	Gly	Cys	Leu	Leu	Asp	His	Val
	130					135					140				
Arg	Glu	Asn	Arg	Gly	Arg	Leu	Gly	Ser	Gln	Asp	Leu	Leu	Asn	Trp	Cys
145					150					155					160
Met	Gln	Ile	Ala	Lys	Gly	Met	Ser	Tyr	Leu	Glu	Asp	Val	Arg	Leu	Val
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His	Arg	Asp	Leu	Ala	Ala	Arg	Asn	Val	Leu	Val	Lys	Ser	Pro	Asn	His
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Val	Lys	Ile	Thr	Asp	Phe	Gly	Leu	Ala	Arg	Leu	Leu	Asp	Ile	Asp	Glu
	195						200					205			
Thr	Glu	Tyr	His	Ala	Asp	Gly	Gly	Lys	Val	Pro	Ile	Lys	Trp	Met	Ala
	210					215					220				
Leu	Glu	Ser	Ile	Leu	Arg	Arg	Arg	Phe	Thr	His	Gln	Ser	Asp	Val	Trp
225					230					235					240
Ser	Tyr	Gly	Val	Thr	Val	Trp	Glu	Leu	Met	Thr	Phe	Gly	Ala	Lys	Pro
				245					250					255	
Tyr	Asp	Gly	Ile	Pro	Ala	Arg	Glu	Ile	Pro	Asp	Leu	Leu	Glu	Lys	Gly
			260					265					270		
Glu	Arg	Leu	Pro	Gln	Pro	Pro	Ile	Cys	Thr	Ile	Asp	Val	Tyr	Met	Ile
		275					280					285			
Met	Val	Lys	Cys	Trp	Met	Ile	Asp	Ser	Glu	Cys	Arg	Pro	Arg	Phe	Arg
	290					295					300				
Glu	Leu	Val	Ser	Glu	Phe	Ser	Arg	Met	Ala	Arg	Asp	Pro	Gln	Arg	Phe
305					310					315					320
Val	Val	Ile	Gln	Asn	Glu	Asp	Leu	Gly	Pro	Ala	Ser	Pro	Leu	Asp	Ser
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Thr	Phe	Tyr	Arg	Ser	Leu	Leu	Glu	Asp	Asp	Asp	Met	Gly	Asp	Leu	Val
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Asp	Ala	Glu	Tyr	Leu	Val	Pro	Gln	Gln	Gly	Phe	Phe	Cys	Pro	Asp	
		355					360					365			
Pro	Ala	Pro	Gly	Ala	Gly	Gly	Met	Val	His	His	Arg	His	Arg	Ser	Ser
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Ser	Thr	Arg	Ser	Gly	Gly	Gly	Asp	Leu	Thr	Leu	Gly	Leu	Glu	Pro	Ser
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Glu	Glu	Glu	Ala	Pro	Arg	Ser	Pro	Leu	Ala	Pro	Ser	Glu	Gly	Ala	Gly
				405					410					415	
Ser	Asp	Val	Phe	Asp	Gly	Asp	Leu	Gly	Met	Gly	Ala	Ala	Lys	Gly	Leu
			420					425					430		
Gln	Ser	Leu	Pro	Thr	His	Asp	Pro	Ser	Pro	Leu	Gln	Arg	Tyr	Ser	Glu
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Asp	Pro	Thr	Val	Pro	Leu	Pro	Ser	Glu	Thr	Asp	Gly	Tyr	Val	Ala	Pro
		450				455					460				
Leu	Thr	Cys	Ser	Pro	Gln	Pro	Glu	Tyr	Val	Asn	Gln	Pro	Asp	Val	Arg
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Pro	Gln	Pro	Pro	Ser	Pro	Arg	Glu	Gly	Pro	Leu	Pro	Ala	Ala	Arg	Pro
				485					490					495	
Ala	Gly	Ala	Thr	Leu	Glu	Arg	Pro	Lys	Thr	Leu	Ser	Pro	Gly	Lys	Asn
			500					505					510		
Gly	Val	Val	Lys	Asp	Val	Phe	Ala	Phe	Gly	Gly	Ala	Val	Glu	Asn	Pro

		515					520				525						
Glu	Tyr	Leu	Thr	Pro	Gln	Gly	Gly	Ala	Ala	Pro	Gln	Pro	His	Pro	Pro		
	530					535					540						
Pro	Ala	Phe	Ser	Pro	Ala	Phe	Asp	Asn	Leu	Tyr	Tyr	Trp	Asp	Gln	Asp		
545					550					555					560		
Pro	Pro	Glu	Arg	Gly	Ala	Pro	Pro	Ser	Thr	Phe	Lys	Gly	Thr	Pro	Thr		
				565					570					575			
Ala	Glu	Asn	Pro	Glu	Tyr	Leu	Gly	Leu	Asp	Val	Pro	Val					
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<210> 11
 <211> 600
 <212> PRT
 <213> Homo sapiens

<400> 11

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			20					25					30				
Arg	Arg	Leu	Leu	Gln	Glu	Thr	Glu	Leu	Val	Glu	Pro	Leu	Thr	Pro	Ser		
		35					40					45					
Gly	Ala	Met	Pro	Asn	Gln	Ala	Gln	Met	Arg	Ile	Leu	Lys	Glu	Thr	Glu		
	50					55					60						
Leu	Arg	Lys	Val	Lys	Val	Leu	Gly	Ser	Gly	Ala	Phe	Gly	Thr	Val	Tyr		
	65				70				75						80		
Lys	Gly	Ile	Trp	Ile	Pro	Asp	Gly	Glu	Asn	Val	Lys	Ile	Pro	Val	Ala		
				85					90					95			
Ile	Lys	Val	Leu	Arg	Glu	Asn	Thr	Ser	Pro	Lys	Ala	Asn	Lys	Glu	Ile		
		100						105					110				
Leu	Asp	Glu	Ala	Tyr	Val	Met	Ala	Gly	Val	Gly	Ser	Pro	Tyr	Val	Ser		
	115					120						125					
Arg	Leu	Leu	Gly	Ile	Cys	Leu	Thr	Ser	Thr	Val	Gln	Leu	Val	Thr	Gln		
	130				135					140							
Leu	Met	Pro	Tyr	Gly	Cys	Leu	Leu	Asp	His	Val	Arg	Glu	Asn	Arg	Gly		
	145				150				155						160		
Arg	Leu	Gly	Ser	Gln	Asp	Leu	Leu	Asn	Trp	Cys	Met	Gln	Ile	Ala	Lys		
				165				170					175				
Gly	Met	Ser	Tyr	Leu	Glu	Asp	Val	Arg	Leu	Val	His	Arg	Asp	Leu	Ala		
		180					185						190				
Ala	Arg	Asn	Val	Leu	Val	Lys	Ser	Pro	Asn	His	Val	Lys	Ile	Thr	Asp		
		195					200					205					
Phe	Gly	Leu	Ala	Arg	Leu	Leu	Asp	Ile	Asp	Glu	Thr	Glu	Tyr	His	Ala		
	210				215						220						
Asp	Gly	Gly	Lys	Val	Pro	Ile	Lys	Trp	Met	Ala	Leu	Glu	Ser	Ile	Leu		
	225				230					235					240		
Arg	Arg	Arg	Phe	Thr	His	Gln	Ser	Asp	Val	Trp	Ser	Tyr	Gly	Val	Thr		
				245				250						255			
Val	Trp	Glu	Leu	Met	Thr	Phe	Gly	Ala	Lys	Pro	Tyr	Asp	Gly	Ile	Pro		
		260					265						270				
Ala	Arg	Glu	Ile	Pro	Asp	Leu	Leu	Glu	Lys	Gly	Glu	Arg	Leu	Pro	Gln		
	275					280						285					
Pro	Pro	Ile	Cys	Thr	Ile	Asp	Val	Tyr	Met	Ile	Met	Val	Lys	Cys	Trp		
	290					295					300						
Met	Ile	Asp	Ser	Glu	Cys	Arg	Pro	Arg	Phe	Arg	Glu	Leu	Val	Ser	Glu		
	305				310					315					320		

Phe Ser Arg Met Ala Arg Asp Pro Gln Arg Phe Val Val Ile Gln Asn
 325 330 335
 Glu Asp Leu Gly Pro Ala Ser Pro Leu Asp Ser Thr Phe Tyr Arg Ser
 340 345 350
 Leu Leu Glu Asp Asp Met Gly Asp Leu Val Asp Ala Glu Glu Tyr
 355 360 365
 Leu Val Pro Gln Gln Gly Phe Phe Cys Pro Asp Pro Ala Pro Gly Ala
 370 375 380
 Gly Gly Met Val His His Arg His Arg Ser Ser Ser Thr Arg Ser Gly
 385 390 395 400
 Gly Gly Asp Leu Thr Leu Gly Leu Glu Pro Ser Glu Glu Glu Ala Pro
 405 410 415
 Arg Ser Pro Leu Ala Pro Ser Glu Gly Ala Gly Ser Asp Val Phe Asp
 420 425 430
 Gly Asp Leu Gly Met Gly Ala Ala Lys Gly Leu Gln Ser Leu Pro Thr
 435 440 445
 His Asp Pro Ser Pro Leu Gln Arg Tyr Ser Glu Asp Pro Thr Val Pro
 450 455 460
 Leu Pro Ser Glu Thr Asp Gly Tyr Val Ala Pro Leu Thr Cys Ser Pro
 465 470 475 480
 Gln Pro Glu Tyr Val Asn Gln Pro Asp Val Arg Pro Gln Pro Pro Ser
 485 490 495
 Pro Arg Glu Gly Pro Leu Pro Ala Ala Arg Pro Ala Gly Ala Thr Leu
 500 505 510
 Glu Arg Pro Lys Thr Leu Ser Pro Gly Lys Asn Gly Val Val Lys Asp
 515 520 525
 Val Phe Ala Phe Gly Gly Ala Val Glu Asn Pro Glu Tyr Leu Thr Pro
 530 535 540
 Gln Gly Gly Ala Ala Pro Gln Pro His Pro Pro Ala Phe Ser Pro
 545 550 555 560
 Ala Phe Asp Asn Leu Tyr Tyr Trp Asp Gln Asp Pro Pro Glu Arg Gly
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 Ala Pro Pro Ser Thr Phe Lys Gly Thr Pro Thr Ala Glu Asn Pro Glu
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 Tyr Leu Gly Leu Asp Val Pro Val
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<210> 12
 <211> 957
 <212> DNA
 <213> Homo sapiens

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 acttgttctc agaatatgaa ccatgagtat atgtcctggg atcgacaaga cccagggtg 180
 ggcttaaggc agatctacta ttcaatgaat gttgaggtga ctgataaggg agatgttcct 240
 gaagggtaca aagtctctcg aaaagagaag aggaatttcc ccctgatcct ggagtcgccc 300
 agccccaacc agacctctct gtacttctgt gccagcagtt tagattgggg cggactagcg 360
 ggagggttgg gcacagatac gcagtatttt ggcccaggca cccggctgac agtgctcgag 420
 gacctgaaaa acgtgttccc acccgagggtc gctgtgtttg agccatcaga agcagagatc 480
 tcccacaccc aaaaggccac actggtatgc ctggccacag gcttctaccc cgaccagtg 540
 gagctgagct ggtgggtgaa tgggaaggag gtgcacaagt ggggtcagca cagaccgca 600
 gccctcaag gagcaagccc gccctcaatg actccagata ctgctgagca gccgcctgag 660
 ggtctcggcc acttctggca gaacccccgc aaccacttcc gctgtcaagt ccagttctac 720
 gggctctcgg agaatgacga gtggaccag gatagggcc aacctgtcac ccagatcgtc 780

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agcgccgagg cctggggtag agcagactgt ggcttcacct ccgagtctta ccagcaaggg 840
gtcctgtctg ccaccatcct ctatgagatc ttgctagggg aggccacctt gtatgccgtg 900
ctggtcagtg ccctcgtgct gatggccatg gtcaagagaa aggattccag aggctag 957

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<210> 13
<211> 686
<212> DNA
<213> Homo sapiens

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<400> 13
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aaatgcacct attcagtctc tggaaaccct tatctttttt ggtatgttca atacccaac 180
cgaggcctcc agttccttct gaaatacatc acaggggata acctgggtta aggagctat 240
ggctttgaag ctgaatttaa caagagccaa acctccttcc acctgaagaa accatctgcc 300
cttgtagcgg actccgcttt gtacttctgt gctgtgagac cgaattcagg atacagcacc 360
ctcacctttg ggaaggggac tatgcttcta gtctctccag atatccagaa ccctgaccct 420
gccgtgtacc agctgagaga ctctaaatcc agtgacaagt ctgtctgcct attcaccgat 480
tttgattctc aaacaaatgt gtcacaaagt aaggattctg atgtgtatat cacagacaaa 540
actgtgctag acatgaggtc tatggacttc aagagcaaca gtgctgtggc ctggagcaac 600
aaatctgact ttgcatgtgc aaacgccttc aacaacagca ttattccaga agacaccttc 660
ttccccagcc cagaaagttc ctgtga 686

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<210> 14
<211> 318
<212> PRT
<213> Homo sapiens

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<400> 14
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          20              25              30
Val Thr Gly Lys Lys Leu Thr Val Thr Cys Ser Gln Asn Met Asn His
          35              40              45
Glu Tyr Met Ser Trp Tyr Arg Gln Asp Pro Gly Leu Gly Leu Arg Gln
          50              55              60
Ile Tyr Tyr Ser Met Asn Val Glu Val Thr Asp Lys Gly Asp Val Pro
          65              70              75              80
Glu Gly Tyr Lys Val Ser Arg Lys Glu Lys Arg Asn Phe Pro Leu Ile
          85              90              95
Leu Glu Ser Pro Ser Pro Asn Gln Thr Ser Leu Tyr Phe Cys Ala Ser
          100             105             110
Ser Leu Asp Trp Gly Gly Leu Ala Gly Gly Leu Gly Thr Asp Thr Gln
          115             120             125
Tyr Phe Gly Pro Gly Thr Arg Leu Thr Val Leu Glu Asp Leu Lys Asn
          130             135             140
Val Phe Pro Pro Glu Val Ala Val Phe Glu Pro Ser Glu Ala Glu Ile
          145             150             155             160
Ser His Thr Gln Lys Ala Thr Leu Val Cys Leu Ala Thr Gly Phe Tyr
          165             170             175
Pro Asp His Val Glu Leu Ser Trp Trp Val Asn Gly Lys Glu Val His
          180             185             190
Lys Trp Gly Gln His Arg Pro Ala Ala Pro Gln Gly Ala Ser Pro Pro
          195             200             205
Ser Met Thr Pro Asp Thr Ala Glu Gln Pro Pro Glu Gly Leu Gly His
          210             215             220

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Phe	Trp	Gln	Asn	Pro	Arg	Asn	His	Phe	Arg	Cys	Gln	Val	Gln	Phe	Tyr
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Thr	Gln	Ile	Val	Ser	Ala	Glu	Ala	Trp	Gly	Arg	Ala	Asp	Cys	Gly	Phe
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Thr	Ser	Glu	Ser	Tyr	Gln	Gln	Gly	Val	Leu	Ser	Ala	Thr	Ile	Leu	Tyr
		275					280					285			
Glu	Ile	Leu	Leu	Gly	Lys	Ala	Thr	Leu	Tyr	Ala	Val	Leu	Val	Ser	Ala
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Ala	Glu	Gly	Asn	Pro	Leu	Thr	Val	Lys	Cys	Thr	Tyr	Ser	Val	Ser	Gly
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Gly	Phe	Glu	Ala	Glu	Phe	Asn	Lys	Ser	Gln	Thr	Ser	Phe	His	Leu	Lys
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Lys	Pro	Ser	Ala	Leu	Val	Ser	Asp	Ser	Ala	Leu	Tyr	Phe	Cys	Ala	Val
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Leu	Arg	Asp	Ser	Lys	Ser	Ser	Asp	Lys	Ser	Val	Cys	Leu	Phe	Thr	Asp
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Phe	Asp	Ser	Gln	Thr	Asn	Val	Ser	Gln	Ser	Lys	Asp	Ser	Asp	Val	Tyr
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Ile	Thr	Asp	Lys	Thr	Val	Leu	Asp	Met	Arg	Ser	Met	Asp	Phe	Lys	Ser
		180					185						190		
Asn	Ser	Ala	Val	Ala	Trp	Ser	Asn	Lys	Ser	Asp	Phe	Ala	Cys	Ala	Asn
		195					200					205			
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